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16 **UNITED STATES DISTRICT COURT**
17 **CENTRAL DISTRICT OF CALIFORNIA**
18 **EASTERN DIVISION – RIVERSIDE**

19 FAOUR ABDALLAH FRAIHAT, *et al.*,
20 Plaintiffs,
21 v.
22 U.S. IMMIGRATION AND CUSTOMS
23 ENFORCEMENT, *et al.*,
24 Defendants.

Case No.: 19-cv-01546-JGB(SHKx)

DECLARATION OF
DR. CARLOS FRANCO-PAREDES

Date: March 24, 2020

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Declaration of Dr. Carlos Franco-Paredes

The Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2), is a newly emerging zoonotic agent initially identified in December 2019 that, as of today, has spread to more than 150 countries causing 297,000 confirmed cases and 12,755 deaths^a. This viral pathogen causes the Coronavirus Disease 2019 (COVID-19). Infection with COVID-19 is associated with significant morbidity and mortality especially in patients above 55 years of age and those with chronic medical conditions^{b,c,d}.

Immigration detention centers in the U.S. are tinderboxes for the transmission of highly transmissible infectious pathogens including the SARS-CoV-2, which causes COVID-19. Given the large population density of immigration detention centers and the ease of transmission of this viral pathogen, the attack rate inside these centers will take exponential proportions, consuming significant medical and financial resources.

As an infectious disease clinician with a public health degree in the dynamics of infectious disease epidemics and pandemics and twenty years of clinical experience, I am concerned about the treatment of immigrants inside detention centers which could make the current COVID-19 epidemic worse in the U.S. by having a high case fatality rate among detainees and potentially spreading the outbreak into the larger community. A copy of my CV is presented in Exhibit A.

I have experience providing care to individuals in a civil detention center and have performed approximately two medical forensic examinations and fifteen medical second opinion evaluations for patients in the custody of the Department of Homeland Security (DHS). Based on my conversations with patients, my own observations, and information that exists regarding the resources available within immigration detention facilities as detailed by the ICE Health Services Corps, it is my professional opinion that the medical care available in DHS custody cannot

properly accommodate the needs of patients should there be an outbreak of COVID-19 in an immigration detention facility. The physical and emotional trauma that detainees and asylum seekers experience can weaken their immune systems, resulting in increased risk of severe manifestations of infections. For example cases of influenza virus infections causing pneumonia and respiratory failure, - albeit influenza infection is not as communicable and not transmitted during asymptomatic infection as it is the case with SARS-CoV-2 -, has caused human deaths inside immigration detention centers ^c.

- **For people in the highest risk populations, the fatality rate of COVID-19 infection is about 15 percent.**

According to the CDC, groups deemed to be at high risk of developing severe disease and dying from COVID-19 include those above 55 years of age and those with underlying medical conditions (regardless of their age) (See Table 1). These cases are also amplifiers or hyper-spreaders of the infection since they tend to have high viral concentrations in their respiratory secretions.

The clinical experience in China, South Korea, Italy and Spain has shown that 80% of confirmed cases tend to occur in persons 30-69 years of age regardless of whether they had underlying medical conditions. Of these, 20% develop severe clinical manifestations or become critically ill. Among those with severe clinical manifestations, regardless of their age or underlying medical conditions, the virus progresses into respiratory failure, septic shock, and multiorgan dysfunction requiring intensive care support including the use of mechanical ventilator support. The overall case fatality rate is 10-14% of those who develop severe disease. In China, 80% of deaths occurred among adults ≥ 60 years^c.

Table 1. Risk factors for developing severe disease and death outside the U.S.

Age groups at high risk of developing severe disease and dying without underlying medical	50-59 years (1% CFR)* 60-69 years (3.6% CFR) 70-79 years (8% CFR)
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1	conditions	
2	Groups with underlying medical	-Cardiovascular Disease (congestive
3	conditions at high risk of dying	heart failure, history of myocardial
4	regardless of their age	infarction, history of cardiac surgery)
5		-Systemic Arterial Hypertension (high
6		blood pressure)
7		-Chronic Respiratory Disease (asthma,
8		chronic obstructive pulmonary disease
9		including chronic bronchitis or
10		emphysema, or other pulmonary
11		diseases)
12		-Diabetes Mellitus
13		-Cancer
14		-Chronic Liver Disease
15		-Chronic Kidney Disease
16		-Autoimmune Diseases (psoriasis,
17		rheumatoid arthritis, systemic lupus
18		erythematosus)
19		-Severe Psychiatric Illness **
20		-History of Transplantation
21		-HIV/AIDS
22		-Pregnancy***
23		

*CFR= Case Fatality Rate. This is an indicator of lethality used during outbreaks to identify the number of individuals who succumb out of those infected.

** In South Korea, 20% of deaths occurred in what they defined as Psychiatric Illness (J Korean Med Sci 2020; 35(10): e112).

*** Extrapolation from previous influenza pandemics including the 2009 pandemic that increased pregnancy-related mortality 4-fold particularly during second and third trimesters. The reason is due to immune mediated changes during pregnancy and lung function compromise due to gravid uterus (Omer S. N Engl J Med 2017;376(13): 1256-1267).

1 There is a growing number of confirmed cases in the U.S., increasing
2 number of hospitalizations and admissions to intensive care units, and many
3 deaths. In this wave of the pandemic or in subsequent ones, it is likely the number
4 of infected individuals will continue to augment. In the closed settings of
5 immigration detention centers, where there is overcrowding and confinement of a
6 large number of persons, networks of transmission become highly conducive to
7 spread rapidly.

8 As of March 16, 2020^c, cases of COVID-19 in the U.S. reported by the CDC
9 shows that 31% of COVID-19 cases, 45% of hospitalizations, and 80% of deaths
10 occurred among adults > 65 years of age. Case-fatality in persons aged > 85 ranged
11 from 10-27%, followed by 3-11% among persons aged 65-84 years, 1% among
12 persons aged 55-64 and <1% among persons 20-54 years of age.

13 Reports by the Chinese CDC demonstrate that the case fatality rate is highest among critical
14 cases in the high-risk categories with COVID at 49%^f. Case fatality was higher for patients with
15 comorbidities: 10.5% for those with cardiovascular disease, 7% for diabetes, and 6% each for
16 chronic respiratory disease, hypertension, and cancer. Case fatality for patients who developed
17 respiratory failure, septic shock, or multiple organ dysfunction was 49%^b.

- 18
- 19 • **For people with these risk factors, COVID-19 can severely damage**
20 **lung tissue, which requires an extensive period of rehabilitation, and**
21 **in some cases, can cause permanent loss of respiratory capacity.**

22 There is preliminary evidence that persons with COVID-19 who are
23 recovering from severe disease and who have developed extensive pulmonary
24 disease including Acute Respiratory Distress Syndrome (ARDS)^g may have long-
25 term sequelae similar to other infectious pathogens evolving in a similar pattern.
26 Long term sequelae of those with sepsis, ARDS and respiratory failure identified in
27 the literature include long-term cognitive impairment, psychological morbidities,
28 neuromuscular weakness, pulmonary dysfunction, and ongoing healthcare

utilization with reduced quality of life^h and need for rehabilitation servicesⁱ.

- **COVID-19 may also target the heart muscle, causing a medical condition called myocarditis, or inflammation of the heart muscle. Myocarditis can affect the heart muscle and electrical system, reducing the heart's ability to pump. This reduction can lead to rapid or abnormal heart rhythms in the short term, and long-term heart failure that limits exercise tolerance and the ability to work.**

The full description of the pathogenesis of COVID-19 requires to be completely elucidated. However, there is clinical evidence that in addition to the severe lung injury associated to this viral infection, some persons may also develop myocardial involvement that appears to be the result of either direct viral infection or caused by the immune response to SARS-CoV-2. From the published case reports, myocarditis caused by this viral pathogen is associated with congestive heart failure, cardiac arrhythmias and death^j. Similar to other viral myocarditis, most patients may develop long-term myocardial damage^k.

- **Emerging evidence also suggests that COVID-19 can trigger an over-response of the immune system, further damaging tissues in a cytokine release syndrome that can result in widespread damage to other organs, including permanent injury to the kidneys and neurologic injury. These complications can manifest at an alarming pace.**

Among persons infected with SARS-CoV-2 and developing COVID-19, severe disease systemic inflammation is associated with adverse outcomes^l. However, there is evidence that the use of corticosteroids have not shown benefit and they might be more likely to cause harm when administered to persons with ARDS caused by COVID-19^m. Similar to influenza infection, acute lung injury and

1 acute respiratory distress syndrome are most likely caused by the respiratory
2 epithelial membrane dysfunction leading to acute respiratory distress syndrome ^{l,n}.
3 Preliminary evidence from case reports and small cases series from China and
4 South Korea confirm that there is minimal inflammation and evidence of cell
5 necrosis in the form of apoptosis of the respiratory epithelium ^o. The resultant
6 tissue hypoxia is responsible and potential concomitant bacterial sepsis contribute
7 to multiorgan dysfunction and death. If a patient with COVID-19 develops
8 myocarditis, cardiogenic shock caused by fulminant myocarditis may also
9 contribute to the overall occurrence of multiple organ failure ^k.

- 10 **• Patients can show the first symptoms of infection in as little as two**
11 **days after exposure, and their condition can seriously deteriorate in**
12 **five days or sooner.**

13
14 There is evidence of substantial undocumented infection facilitating the
15 rapid dissemination of novel coronavirus SARS-CoV-2 which is responsible for
16 79% of documented cases of COVID-19 in China^o. Once an individual is exposed
17 to this virus from either a symptomatic individual (21% of cases) or from
18 asymptomatic individuals (79% of cases), the shortest incubation period is 3 days
19 with a median incubation period of 5.1 (95% CI 4.5 to 5.8 days)^p. Overall, 97.5%
20 of persons who develop symptoms do so within 11.5 days of the initial exposure^p.
21 Most persons with COVID-19 who develop severe disease do so immediately after
22 admission or within 3-5 days from their initial presentation^{c,q} and represent 53% of
23 those requiring intensive care unit admissions and advanced supportive care^c. At
24 my current institution, the two confirmed deaths occurred within 48 hours of
25 admission to the hospital.

- 26 **• Most people in higher risk categories who develop serious disease**
27 **will need advanced support. This level of supportive care requires**
28 **highly specialized equipment that is in limited supply, and an entire**

1 **team of care providers, including 1:1 or 1:2 nurse to patient ratios,**
2 **respiratory therapists, and intensive care physicians. This level of**
3 **support can quickly exceed local health care resources.**

4 There is sufficient evidence that the SARS-CoV-2 pandemic has an
5 overwhelming impact in healthcare utilization in all settings (China, South Korea,
6 Italy, France, Germany, and others). In the U.S.^c, current evidence demonstrates
7 that COVID-19 can result in severe disease, including hospitalization (31%) and
8 admission to an intensive care unit (53% of ICU admissions). To respond to this
9 overwhelming demand in ICU admissions, there is a need for a multidisciplinary
10 approach that is time consuming and requires highly trained personnel including
11 pulmonary and critical care physicians, nurses, respiratory therapists,
12 phlebotomists, social workers, and case managers. The care of this group of
13 patients also requires subspecialists including nephrologists, infectious disease
14 physicians, hematologists, hospitalists, and others. Patients on mechanical
15 ventilation or requiring extracorporeal membrane oxygenation require additional
16 staff including perfusionists and 1:1 dedicated nursing care. Currently, medical
17 centers in many urban and rural settings in the U.S. are functioning at full capacity.
18 Therefore, preventing the occurrence of an outbreak within a detention facility
19 would reduce the risk of overwhelming local healthcare systems. Indeed, a
20 potential outbreak occurring within an immigration detention center, the number of
21 detainees who will require transfer outside the facility for specialized care may
22 exceed the capacity of local hospitals. This is particularly important in rural and
23 semirural settings where many immigration detention centers are located, and
24 where they may have contact with a limited number of surrounding medical
25 centers.

26
27 **Conclusions:**

28 There is a need to proactively consider alternative strategies to dilute the

1 potential community-based impact of an outbreak inside immigration detention
2 centers. Therefore, it is my professional view that releasing detainees/asylum
3 seekers on humanitarian parole from these centers constitutes a high-yield public
4 health intervention that may significantly lessen the impact of this outbreak not
5 only within detention centers but among the communities surrounding these
6 centers. In particular, targeting the release of persons in the age groups at risk of
7 severe disease and death; and persons with underlying medical conditions, may
8 lessen the human and financial costs that this outbreak may eventually impose on
9 ICE detention facilities nationwide. Responding to an outbreak requires significant
10 improvements in staffing, upgrading medical equipment, substantial supplies
11 including antibiotics, intravenous infusions, cardiac and respiratory monitors,
12 devices for oxygen supply, and personal protection supplies among persons at high
13 risk of severe COVID-19 disease.

14
15 A large outbreak of COVID-19 in an immigration detention facility would
16 put a tremendous strain on the medical system to the detriment of patients in the
17 communities surrounding these centers. It is reasonable to anticipate that there will
18 be the loss of additional lives that could have otherwise been saved.

19
20 I declare under penalty of perjury that the statements above are true and correct to
21 the best of my knowledge.

22
23 Date: March 21, 2020

24
25 A handwritten signature in black ink, appearing to read 'C. Franco-Paredes', is written over a light gray rectangular background.

26
27
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References

- a. Johns Hopkins University. Coronavirus Resource Center Available at: <https://coronavirus.jhu.edu/map.html>. Accessed: March 21, 2020.
- b. CDC-Interim Clinical Guidance for Management of Patients with Confirmed Coronavirus Disease (COVID-19) Available at: <https://www.cdc.gov/coronavirus/2019-ncov/hcp/clinical-guidance-management-patients.html>). Accessed: March 21, 2020.
- c. CDC COVID 19 Response Team. Severe outcomes among patients with coronavirus disease 2019 (COVID-19) – United States, February 12-March 16, 2020. Available at: <https://www.cdc.gov/mmwr/volumes/69/wr/mm6912e2.htm>. Accessed: March 21, 2020.
- d. Rodriguez-Morales AJ, Cardona-Ospina JA, Gutiérrez-Ocampo E, Villamizar-Peña R, Holguin-Rivera Y, Escalera-Antezana JP, Alvarado-Arnez LE, Bonilla-Aldana DK, Franco-Paredes C, Henao-Martinez AF, Paniz-Mondolfi A, Lagos-Grisales GJ, Ramírez-Vallejo E, Suárez JA, Zambrano LI, Villamil-Gómez WE, Balbin-Ramon GJ, Rabaan AA, Harapan H, Dhama K, Nishiura H, Kataoka H, Ahmad T, Sah R; Latin American Network of Coronavirus Disease 2019-COVID-19 Research (LANCOVID-19). Electronic address: <https://www.lancovid.org>. [Clinical, laboratory and imaging features of COVID-19: A systematic review and meta-analysis](https://doi.org/10.1016/j.tmaid.2020.101623). Travel Med Infect Dis. 2020 Mar 13:101623. doi: 10.1016/j.tmaid.2020.101623. [Epub ahead of print].
- e. Foppian Palacios C, Openshaw JJ, Travassos MA. Influenza in U.S. detention centers- the desperate need for immunization. N Engl J Med 2020; 382(9): 789-792.
- f. [Novel Coronavirus Pneumonia Emergency Response Epidemiology Team](https://doi.org/10.1016/j.tmaid.2020.101623)external iconexternal icon. [The Epidemiological Characteristics of an Outbreak of 2019 Novel Coronavirus Diseases (COVID-19) in China]. Zhonghua Liu Xing Bing Xue Za Zhi. 2020;41(2):145–151. DOI:10.3760/cma.j.issn.0254-6450.2020.02.003.
- g. Mart M, Ware LB. The long-lasting effects of the acute respiratory distress syndrome. Expert Rev Respir Dis 2020; <https://doi.org/10.1080/17476348.2020.1743182>.
- h. Wu C, Chen X, Cai Y, Xia J, Zhou X, Xu S, Huang H, Zhang L, Zhou X, Du C, Zhang Y, Song J, Wang S, Chao Y, Yang Z, Xu J, Zhou X, Chen D, Xiong W, Xu L, Zhou F, Jiang J, Bai C, Zheng J, Song Y. [Risk Factors Associated With Acute Respiratory Distress Syndrome and Death in Patients With Coronavirus Disease 2019 Pneumonia in Wuhan, China](https://doi.org/10.1001/jamainternmed.2020.0994). JAMA Intern Med. 2020 Mar 13. doi: 10.1001/jamainternmed.2020.0994. [Epub ahead of print].
- i. Koh GC, Hoenig H. How should the rehabilitation community prepare for 2019-nCoV? Arch Phys Med Rehabil 2020 Mar 16. pii: S0003-9993(20)30153-2. Doi: 10.1016/j.apmr.2020.03.003. (Epub ahead of print).
- j. Chen C, Zhou Y, Wen WD. SARS-CoV-2: a potential novel etiology of fulminant myocarditis. Herz 2020; March 5. <https://doi.org/10.1007/s00059-020-04909-z>.
- k. Hu H, Ma F, Wei X, Fang Y. Coronavirus fulminant myocarditis saved with glucocorticoid and human immunoglobulin. Eur Heart J 2020; Mar 16. [Epub ahead of print].
- l. Li R, Pei S, Chen B, Song , Zhang T, Shaman J. Substantial undocumented infection facilitates the rapid dissemination of novel coronavirus (SARS-CoV2). Science 10.1126/scienceabb3221 (2020).
- m. Russell CD, Millar JE, Baillie JK. Clinical evidence does not support corticosteroid treatment for 2019-nCoV lung injury. Lancet Infect Dis 2020; 395: 474-475.
- n. [Hoffmann M](https://doi.org/10.1016/j.cell.2020.02.052), [Kleine-Weber H](https://doi.org/10.1016/j.cell.2020.02.052), [Schroeder S](https://doi.org/10.1016/j.cell.2020.02.052), [Krüger N](https://doi.org/10.1016/j.cell.2020.02.052), [Herrler T](https://doi.org/10.1016/j.cell.2020.02.052), [Erichsen S](https://doi.org/10.1016/j.cell.2020.02.052), [Schiergens TS](https://doi.org/10.1016/j.cell.2020.02.052), [Herrler G](https://doi.org/10.1016/j.cell.2020.02.052), [Wu NH](https://doi.org/10.1016/j.cell.2020.02.052), [Nitsche A](https://doi.org/10.1016/j.cell.2020.02.052), [Müller MA](https://doi.org/10.1016/j.cell.2020.02.052), [Drosten C](https://doi.org/10.1016/j.cell.2020.02.052), [Pöhlmann S](https://doi.org/10.1016/j.cell.2020.02.052) SARS-CoV-2 Cell Entry Depends on ACE2 and TMPRSS2 and Is Blocked by a Clinically Proven Protease Inhibitor. [Cell](https://doi.org/10.1016/j.cell.2020.02.052). 2020 Mar 4. pii: S0092-8674(20)30229-4. doi: 10.1016/j.cell.2020.02.052. [Epub ahead of print]
- o. Tian S, Hu W, Niu L, Liu H, Su H, Xiao SY. Pulmonary pathology of early phase 2019 novel coronavirus (COVID-19) pneumonia in patients with lung cancer. J Thorac Oncol 2020; <https://doi.org/10.1016/j.tho.2020.02.010>.
- p. [Lauer SA](https://doi.org/10.1016/j.tho.2020.02.010), [Grantz KH](https://doi.org/10.1016/j.tho.2020.02.010), [Bi Q](https://doi.org/10.1016/j.tho.2020.02.010), [Jones FK](https://doi.org/10.1016/j.tho.2020.02.010), [Zheng Q](https://doi.org/10.1016/j.tho.2020.02.010), [Meredith HR](https://doi.org/10.1016/j.tho.2020.02.010), [Azman AS](https://doi.org/10.1016/j.tho.2020.02.010), [Reich NG](https://doi.org/10.1016/j.tho.2020.02.010), [Lessler J](https://doi.org/10.1016/j.tho.2020.02.010). The incubation period of coronavirus disease 2019 (COVID-19) from publicly reported confirmed cases: estimation and application. Ann Intern Med 2020; March 10, doi: <https://doi.org/10.1016/j.tho.2020.02.010>.
- q. Korean Society of Infectious Diseases; Korean Society of Pediatric Infectious Diseases; Korean Society of Epidemiology; Korean Society for Antimicrobial Therapy; Korean Society for Healthcare-associated

1 Infection Control and Prevention; Korea Centers for Disease Control and Prevention. [Report on the](#)
2 [Epidemiological Features of Coronavirus Disease 2019 \(COVID-19\) Outbreak in the Republic of](#)
3 [Korea from January 19 to March 2, 2020](#). J Korean Med Sci. 2020 Mar 16;35(10):e112. doi:
4 10.3346/jkms.2020.35.e112.
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